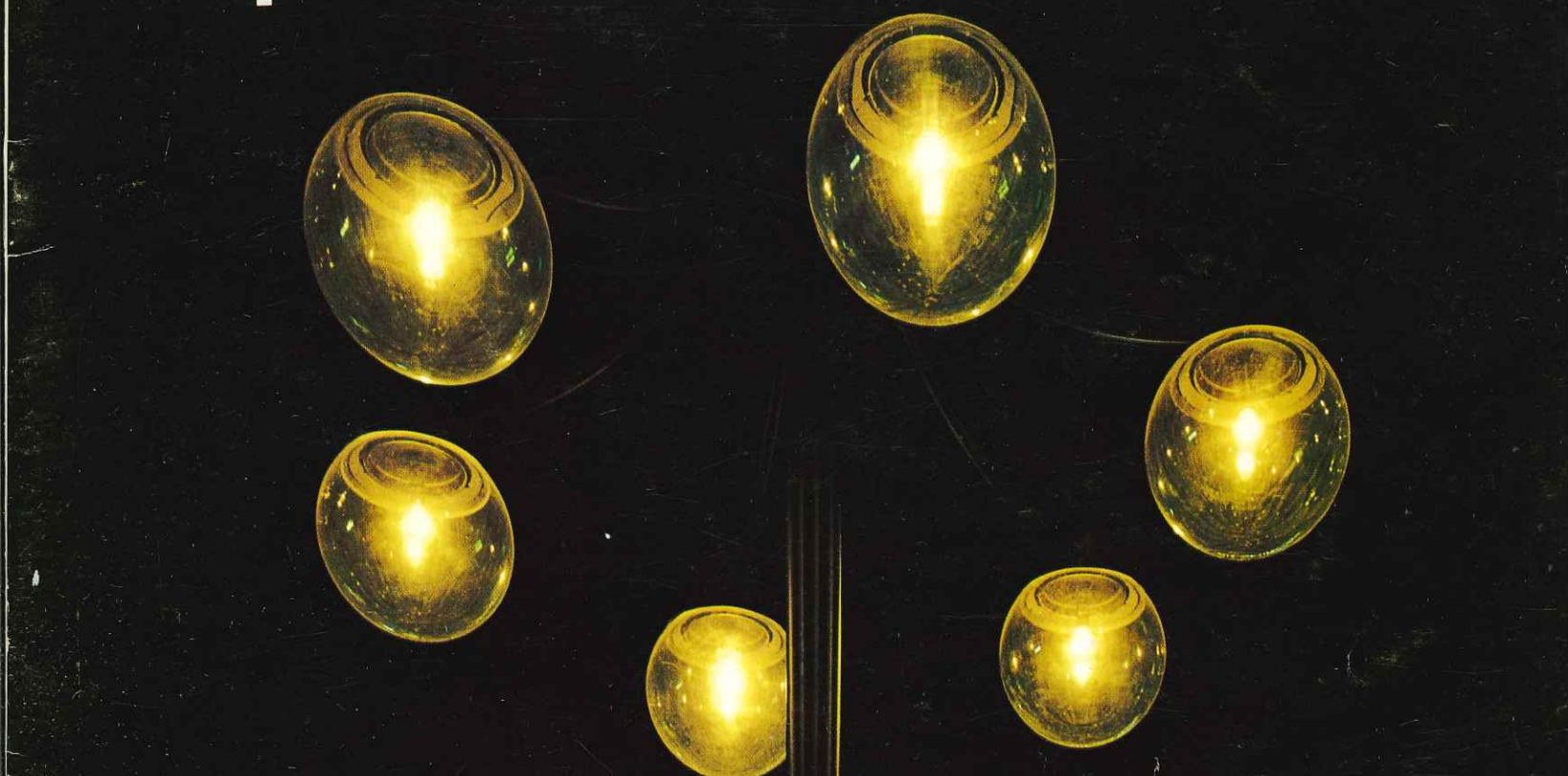
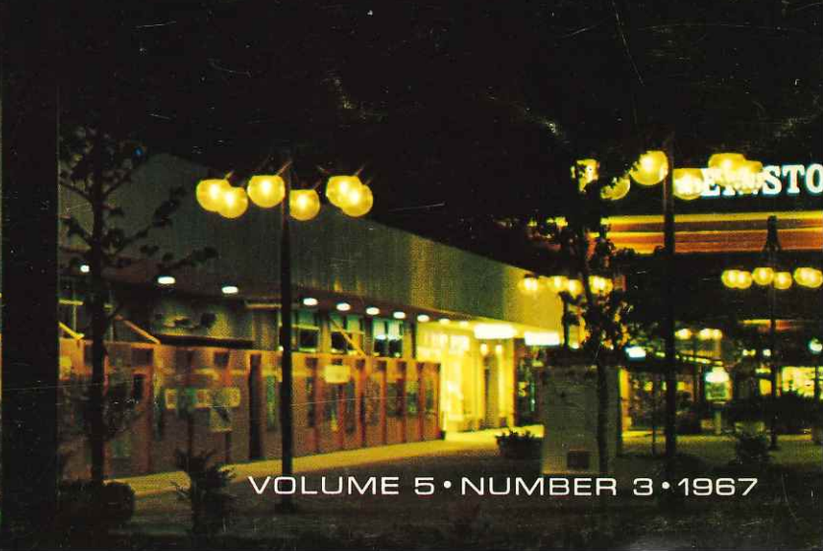
THE LUCITE® spectrum





VOLUME 5 • NUMBER 3 • 1967

Mural in Motion

The newest thirteen-story office building in the heart of the business section of Washington, D.C., is called "1825K". It is owned and managed by the Cafritz Company, a firm which traditionally offers its tenants more than just floor space.

In spite of the restrictive height and area limitations set by the District Building Code, the Cafritz Company asked Architect Vlastimil Koubel to provide style and beauty to the front of the building at the expense of space. They also commissioned artist Eugene Massin of Miami, Florida, to create a mural for the lobby.

Massin, who is Professor of Art at the University of Miami, is big and robust, his paintings bold and brawling and always concerned with, and with a feeling of, motion. The finished mural, fabricated by Mr. Massin in the shop of the Art Display Company with the assistance of their skilled personnel, is made of sheet cast from Du Pont LUCITE® by Cast Optics Corp., Hackensack, New Jersey. It shows people. Moving. Foreshortened figures cut out of white acrylic sheets, painted with the heavy bold strokes that characterize Massin, are mounted about 10″ in front of the white acrylic background panels. Duplicate figures cut out of clear sheet are mounted a few inches farther forward and at varying angles to the painted white sheets which, in turn, are mounted at angles to the background panels. The glossy surface of the white background and the clear figures in front of the dark paint reflect the motion of passing traffic.

The segmented background, foreshortened perspective and the reflections on the clear figures all add to the feeling of motion in this massive Massin mural.

THE LUCITE® spectrum

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THE COVER:

Clear, seamless, one-piece spheres provide visual contrast to the angular lines of Reno's Park Lane Shopping Center.

The purpose of THE LUCITE® SPECTRUM is to provide useful information on building construction products made with Du Pont LUCITE® acrylic plastic materials. This publication will be a medium through which ideas about these materials may be exchanged. Your comments and suggestions are invited. If you desire further information on any product mentioned in this issue, please write to: The Editor, THE LUCITE® SPECTRUM, Du Pont Company, 2420 Nemours Building, Wilmington, Delaware 19898.

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EDITOR: R. F. WELSH, JR. • ART DIRECTOR: R. L. DOWNES • PRODUCTION SUPERVISOR: J. C. RECORDS

Something new under the sun

In 1952, John Graham and Company, architects, planners and engineers, built their first shopping center, Northgate, in Seattle, Washington. Since then, the firm has built more than 80 centers all over the United States, in Canada and Hawaii. Their latest project* is located again in the Pacific Northwest. Tacoma Mall is the first completely enclosed and air conditioned mall in that region.

Great pains were taken to create an open, airy atmosphere of spaciousness in the enclosed mall. Tall, tapering umbrella columns of concrete, cast in place in the 30-foot high entrance, help to create this atmosphere, and natural daylight was a must.

In order to create an unusual visual effect and achieve even distribution of light, the architect designed 48-ft. long skylights spanning the width of the 1,200 foot long mall on 24-foot centers.

The 48-foot span is actually accomplished with two 24-foot sections joined at the peak. The material chosen was Swedcast 300 acrylic sheet cast from Du Pont LUCITE® acrylic monomer. Cast by Swedlow's new continuous casting process this material is available in almost unlimited lengths. (500′ rolls are available from stock.) The architect chose a translucent white to diffuse the sunlight and prevent harsh glare.

Coleman Sheet Metal was chosen to fabricate the skylights. Although he had not worked with this material before, Bob Coleman went ahead and developed a unique suspension system to allow for the expansion of the sheet, about 1-inch over the 24-foot length in the anticipated temperature range.

"I've been in the business of making windows and skylights for 40 years and I'm very interested in this new-type cast acrylic sheet. It seems to me this Swedcast product will be a very important part of the industry in a short time," says Coleman.

"The material and its requirements were new to all of us . . . to the architect, the contractor and to us here in the shop . . . but it has been 100 percent successful and I'd recommend it to anyone under the same conditions."

Tacoma Mall management is well pleased with the installation and the lack of maintenance required. Installed in January 1966, the only thing they've had to do to these skylights is leave them alone. The frequent rain of the Pacific Northwest washes the outside and the inside just doesn't seem to get dirty.

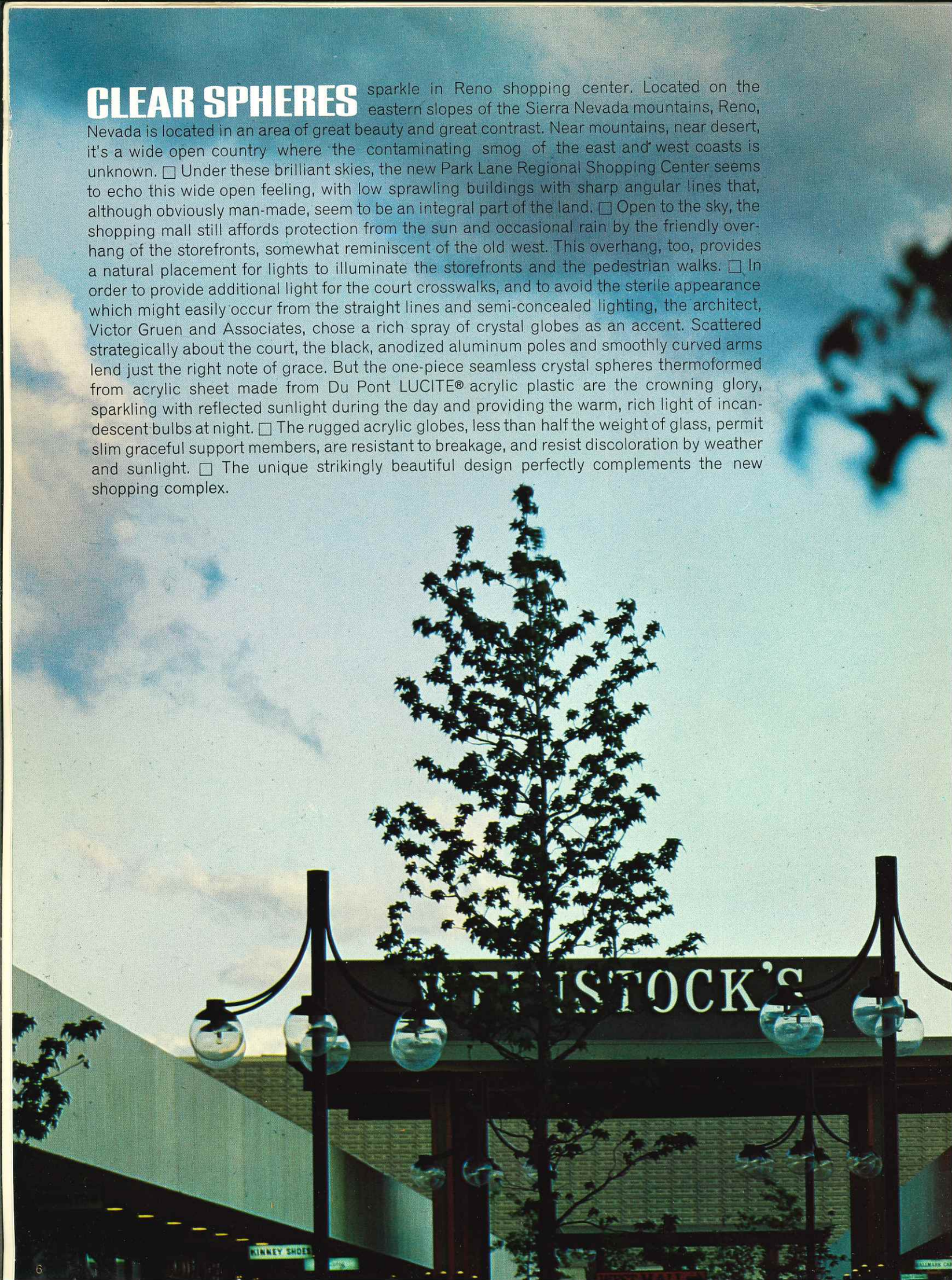
*At the time this article was written, the 900,000 square foot Tacoma Mall was the latest shopping center completed by John Graham Company, although the 1,260,000 sq. ft. Southcenter Mall, south of Seattle, was under construction. Southcenter, too, will use skylights of Swedcast 300 made from Du Pont LUCITE®.

CREDITS: Tacoma Mall, Tacoma, Washington. Owners: Allied Stores, Inc. Architect: John Graham and Company, Seattle, Washington. General Contractor: Nelson Construction Co., Tacoma, Washington. Skylight Fabricator: Coleman Sheet Metal, Tacoma, Washington. Acrylic sheet cast from LUCITE by Swedlow, Inc., Garden Grove, California.

KLOPFENSTEINS
HART SCHAFFNER & MARX CLOTHES

CLEAR SPHERES

sparkle in Reno shopping center. Located on the eastern slopes of the Sierra Nevada mountains, Reno, Nevada is located in an area of great beauty and great contrast. Near mountains, near desert, it's a wide open country where the contaminating smog of the east and west coasts is unknown. □ Under these brilliant skies, the new Park Lane Regional Shopping Center seems to echo this wide open feeling, with low sprawling buildings with sharp angular lines that, although obviously man-made, seem to be an integral part of the land. □ Open to the sky, the shopping mall still affords protection from the sun and occasional rain by the friendly overhang of the storefronts, somewhat reminiscent of the old west. This overhang, too, provides a natural placement for lights to illuminate the storefronts and the pedestrian walks. □ In order to provide additional light for the court crosswalks, and to avoid the sterile appearance which might easily occur from the straight lines and semi-concealed lighting, the architect, Victor Gruen and Associates, chose a rich spray of crystal globes as an accent. Scattered strategically about the court, the black, anodized aluminum poles and smoothly curved arms lend just the right note of grace. But the one-piece seamless crystal spheres thermoformed from acrylic sheet made from Du Pont LUCITE® acrylic plastic are the crowning glory, sparkling with reflected sunlight during the day and providing the warm, rich light of incandescent bulbs at night. □ The rugged acrylic globes, less than half the weight of glass, permit slim graceful support members, are resistant to breakage, and resist discoloration by weather and sunlight. □ The unique strikingly beautiful design perfectly complements the new shopping complex.



CREDITS: Architect: Victor Gruen and Associates. Lighting: Architectural Area Lighting Company, 6100 S. Wilmington Avenue, Los Angeles, California 90001, using globes thermoformed from acrylic sheet cast from LUCITE by Cast Optics Corporation, 214 South Newman Street, Hackensack, New Jersey.

Bridge of light

The new San Mateo-Hayward Bridge stretching 7 miles across lower San Francisco Bay is probably the most modern bridge in the world.

Built at a cost of $70 million, the bridge utilizes the European-developed orthotropic design for several of the spans. This design, which reduces dead weight by making the roadway deck a part of the main support structure, permits a slender, streamlined span to traverse a relatively long distance between supports. Indeed, the main span is 750'.

Designed to handle up to 25 million vehicles a year, the high level bridge provides three 12-foot lanes in each direction, with two each way on trestle approaches.

But one of the main features of the bridge, a true innovation, is the lighting. Mounted on the medial barrier, 2½ feet above the road level, and precisely controlled, the new system covers all six lanes evenly and is unbroken from end to end. A true bridge of light compared to the stepping stone patches of light cast by pole-mounted luminaries.

The design concept originated with the Division of Bay Toll Crossings of the California Department of Public Works. The division employed the University of California's Institute of Transportation and Traffic Engineering, under the direction of Prof. Dan M. Finch, to conduct the research for development of an optical system. This research led the institute to design an acrylic lens for extremely accurate light control.

Rosendin Electric, Inc., the San Jose firm which holds the $1.7 million contract for the bridge lighting system, awarded the luminaire fabrication contract to the Wellmade Metal Products Company of Oakland, California. Holophane Inc. of New York City molded the lenses from LUCITE® acrylic plastic for Wellmade.

The main components of the system are an extruded aluminum housing and cover, a special VHO fluorescent lamp internally reflectorized over 330° of arc, a hexcel louver to prevent horizontal glare, and a "Fresnel" lens, precision molded of Du Pont LUCITE® for extremely accurate light control. Fixtures are held in mounting brackets by tightening a hex-head bolt, and fixture pairs are electrically connected by multiprong plugs.

Advantages of this well-conceived design are many.

- The internally reflectorized lamp delivers the light in the right direction eliminating the need for a separate reflector or reflectorized housing.
- Low level mounting permits delivery of a greater percentage of light to the road surface, particularly in fog or misty atmospheres.
- Precise control of the light with the accurately molded acrylic lens of LUCITE delivers the light where needed avoiding glare and loss.
- Road level mounting facilitates maintenance.
- Easy mount and plug-in features permit replacement of unit for shop maintenance avoiding the hazards of on-site maintenance and excessive lane down time.

Mounted on the medial barrier back-to-back, the fixtures for both directions share a common wireway. System distribution voltage is 480 volts and, depending upon weather conditions and traffic density, the fluorescent tubes can be operated either at 800 or 200 milliamps to provide the optimum light level.

Each fixture is 20-feet long, consisting of two 10-ft. housings joined by a silicone covered stainless steel expansion joint seal which provides for a highway curve up to 25°. The fixture contains two 8-ft. high output aperture lamps and a ballast. The 5-inch wide lenses, injection molded of LUCITE acrylic resin for the utmost precision in light control, are supplied in 40-inch lengths. The Fresnel configuration of the lens is mounted inside the fixture with the flat surface mount to avoid dirt catching "shelves."

The benefits to motorists are more even and continuous distribution of light, and improved visibility in foggy or otherwise inclement weather. And even by day, the absence of vertical poles rising above the low silhouette of the guard rails leaves an unobstructed view of the bay and surrounding hills.

(Additional information on the development of the lighting is contained in an excellent article, "Bridge Safety is not Accidental" in the October, 1966 issue of *Electrical Construction and Maintenance*.) Additional information concerning the bridge structure may be obtained by writing: Mr. Art German, Information Officer, California Department of Public Works, Division of Bay Toll Crossings, 151 Fremont Street, San Francisco, California 94105.

CREDITS: Electrical Contractor: Rosendin Electric, Inc., San Jose, California. Fixtures: Wellmade Metal Products Company, Oakland, California. Lenses: Molded of Du Pont LUCITE® acrylic plastic by Holophane, Inc., New York City.

When Modern Sign Advertising Co. of Philadelphia got the order for a sign to identify a new supermarket, Fred Welsh, the president, was particularly careful in selecting materials. The sign was to consist of five separate modules, each displaying one letter of the name "Dale's," a food chain operated by the Penn Fruit Company.

Mr. Welsh said it appeared to him that the proposed sign, by its location on the store's roof canopy, was likely to pick up enough sun glare and cloud reflection to reduce readability from certain pedestrian viewpoints.

Thus, when it came time to choose a material for the sign's front panel, Welsh recommended Extrudaline Micro-matte, a relatively new material extruded from Du Pont LUCITE 148 acrylic resin by Amplex Manufacturing Company.

The new material has a matte finish, which unlike other matte finish acrylics, is not chemically or mechanically applied as a separate process, but is an integral part of the extrusion process.

And, unlike other matte finishes which consist of dirt-catching peaks and valleys, the new matte finish of LUCITE 148 has minute, rounded peaks and valleys which can be wiped clean.

Fred Welsh was pleased with the choice of Micro-matte. "As a result," he said, "the store has a richly finished, glare-free sign that is readable from every angle."

Welsh pointed out that the new sign followed a basic design used by all Dale's stores, in that it consisted of green block letters on a white background. The only significant departure from previous installations for the company, he said, was the use of white Micro-matte finish LUCITE.

The Dale's job was the first on which Modern Sign had used the new Amplex Micro-matte, and Welsh was pleased with its performance.

"From a manufacturing point of view," he said, "there is really no difference between matte and gloss finished acrylic sheet of LUCITE. Both products can be easily tooled and adapted to all sign manufacturing techniques. The choice is just a matter of which finish you want."

DALES
OPEN TIL' 9
CENTER
YOU SAVE $3.00 TO $7.00 A WEE
GET YOUR POST-TIME TICKETS HERE!
FOOD CLUB CHUNK LIGHT MEAT TUNA 3 6½ OZ. CANS 79¢
ELNA PORK & BEANS 9 15½ OZ. CANS $1
FRENCH FRIES 5 LB. BAG 59¢
FRESH BAKED LEMON PIES 1-LB. 6-OZ. 36¢

LAKE POINT TOWER

Most apartment buildings offer unit air conditioning to the tenants as an optional extra. However, Lake Point Tower, Chicago's and the world's tallest tri-form, luxury apartment building rising 70 stories on Lake Michigan's shoreline, includes individually controlled four-season air conditioning and heating units in every suite as standard equipment.

In order to avoid a haphazard arrangement of air conditioners and covered openings extending from the building which would detract from the graceful lines of the magnificent building, the Developers, Hartnett-Shaw and Fluor Properties, placed grilles below all of the windows, not just those housing the air conditioning system. Grilles below windows not housing the air conditioners function as a baffle to air vents below all other windows.

The tiers of accurately molded grilles handsomely concealing the air conditioners and apertures complement the strong vertical lines of the graceful building.

The grilles are molded of Du Pont LUCITE® 147 acrylic resin in a special bronze color to blend with the exterior metal finish of the building. Both the grilles and mounting clips are molded by Glomac Plastics, Inc., Syracuse, N.Y. The clips, U-shaped to take up any thermal expansion or contraction, are molded of tough Du Pont ZYTEL® nylon resin and are threaded at one end for attachment to the framework. The grilles are then easily snapped in place.

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